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# Reg # 1258 - 10-7 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 1 3 1995

Mr. Garrett B. Schifilliti Olin Corp. 350 Knotter Drive Cheshire, CT 06410

Dear Mr. Schifilliti:

Subject: H T H<sup>®</sup> Commercial Tablet EPA Registration No. 1258-1057 Your Amendment Dated March 7, 1995

This is in response to your amendment to include uses for treatment of Federally Inspected Meat and Poultry Plant Potable Water Supplies and Laundry Sanitizers as well as Cooling Water in Canneries.

The labeling referred to above submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable provided that you make the following revisions before you release the product for shipment bearing the amended labeling. A stamped copy is enclosed for your records.

- Delete last 2 paragraphs under Cooling tower/Evaporative Water Condenser (Continuous Feed Method instructions. They are redundant.
- Under Sanitization of Porous Food Contact Surfaces, add "ppm" after 600 in the first sentence of the use directions for Rinse Method.
- 3. Under Sanitization of Nonporous Non-Food Contact Surfaces, change "wit" to "wet" in the statement "Prior to using ... drain" in the Spray/Fog Method Use directions.

It should be noted that a re-entry statement for spas is not required. It is only required for swimming pools.

 SYMBOL
 SURNAME

 DATE
 CONCURRENCES

Submit one copy of the final printed label.

EPA Form 1320-1A (1/90)

Contraction to the local data

**Printed on Recycled Faper** 

OFFICIAL FILE COPY

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If you have any questions, please call Marianne Clark at (703) 305-7879.

Sincerely yours,

Ruth Douglas Product Manager (32) Antimicrobial Program Branch Registration Division (7505C)

#### HTH COMMERCIAL TABLET

KEEP OUT OF REACH OF CHILDREN

## DANGER

# CONTAMINATION MAY CAUSE FIRE ADD ONLY INTO WATER SEE PRECAUTIONARY STATEMENTS ON BACK PANEL

FIRE OR EXPLOSION COULD RESULT FROM IMPROPER USE

ACTIVE INGREDIENT: CALCIUM HYPOCHLORITE....68% INERT INGREDIENTS.....32% TOTAL.....100%

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MINIMUM AVAILABLE CHLORINE..65%

EPA REG. # 1258-1057 EPA EST # 1258-TN-1

FIRST AID (PRACTICAL TREATMENT): IF ON SKIN: brush off excess chemical and flush skin with cold water for at least 15 minutes. If irritation persists, get medical attention.

IF INHALED: Remove person to fresh air. Call a physician immediately.

IF IN EYES: Flush with cold water for at least 15 minutes. Call a physician immediately.

IF SWALLOWED: Drink large quantities of water. Do not induce vomiting. Call a physician immediately.

Kills bacteria, controls algae, destroys organic contaminants.

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OLIN CORP. 120 LONG RIDGE RD. STAMFORD, CT. 06904\*

ACCEPTED with COMPANYTS in EPA Letter Dutod: ÷

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# **DEC** 1 3 1995

New Control (Control of Control of Control (Control (C

Under the referent insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. / 25.8 -/ 057

Net wt 100 #

### PRECAUTIONARY STATEMENTS:

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HAZARDS TO HUMANS AND DOMESTIC ANIMALS: DANGER. Highly corrosive. Causes skin and eye damage. May be fatal if swallowed. Do not get in eyes, on skin or on clothing. Do not handle with bare hands. Wear goggles or face shield and use rubber gloves and only thoroughly clean dry utensils when handling. Irritating to nose and throat. Avoid breathing dust and fumes. Remove and wash contaminated clothing before reuse.

CHEMICAL HAZARDS: DANGER. Strong oxidizing agent. Mix only into water. Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion. Avoid any contact with flame or burning material, such as a lighted cigarette. Do not contaminate with moisture, garbage, dirt, chemicals including other pool chemicals, pool chlorinating compounds, household products, cyanuric acid pool stabilizers, soap products, paint products, solvents, acids, vinegar, beverages, oils, pine oil, dirty rags or any other foreign matter.

EMERGENCY HANDLING: In case of contamination or decomposition, if possible, isolate container in open and well-ventilated area. Flood with large volumes of water to dissolve all materials. Dispose of contaminated material in an approved landfill area.

ENVIRONMENTAL HAZARD: This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

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DIRECTIONS FOR USE: It is a violation of federal law to use this product in a manner inconsistent with its labeling. This product is designed to dissolve slowly (up to 4 hours) providing a steady source of available chlorine in swimming pools to control the growth of algae, kill bacteria and destroy organic contaminants. Each tablet weighs 1/4 ounce.

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## READ THE PRECAUTIONARY STATEMENTS BEFORE USE.

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Do not use this product with any other chlorinating compound and do not place in skimmer baskets that contain undissolved material from previously used tablets/sticks. Do not use this product in any chlorinating device which has previously contained other pool chemicals.

METHOD OF APPLICATION: Four tablets weigh approx. 1 ounce. Measure only with the clean, dry cup provided. Do not use the cup for any other purpose. Use a floating dispenser or feeder designed for this product or place this product in the skimmer. Remove any other chemical from skimmer basket before adding recommended dosage of this product. If product will be used in a floater, only use in new floaters or floaters that have previously contained only this product. DO NOT REUSE floaters or feeders from other brands of dry chlorinator tablets. Add the recommended dosages of this product during evening hours while the filter pump is running. Do not throw tablets directly into pool or use in any chlorinating device that has been used with other chlorinating compounds.

ROUTINE CHLORINATION: Throughout the pool season, adjust pH to 7.2-7.6 and add 6 to 8 oz. of this product per 10,000 gallons pool water daily or as often as needed to maintain chlorine residual at 1-3 ppm. If you have stabilized your pool using HTH Stabilizer/Conditioner (or similar product), add 3 to 4 oz. per 10,000 gallons every other day or as often as needed to maintain chlorine residual at 1-3 ppm. Follow 'Method of Application' above.

As a preventative treatment, you should shock treat your pool once per week to prevent pool problems. In addition to weekly shock treatment, you should shock treat to remedy problems which may occur when bathing loads are high, water appears hazy or dull, unpleasant odors or eye irritation occur, after heavy wind and rainstorms, or if algae does develop with resulting green color and slimy feeling. SHOCK TREATMENT: Adjust pH to 7.2 - 7.4 with HTH pH Plus or HTH pH Minus. Follow label directions. Add 1 lb. (16 oz.) of this product per 10,000 gallons of water (to provide a dosage of 7.5 ppm free available chlorine). Follow 'Method of Application' above. Wait for the tablets to dissolve. An alternate method is to use Sock It. Follow label directions.Do not reenter pool until chlorine residual is 1.0 to 3.0 ppm.

ALGAE CONTROL: If the sides or bottom develop algae spots, follow shock treatment directions above. Immediately after treatment, thoroughly clean pool by scrubbing surface of algae growth, vacuum and cycle through filter. If necessary, repeat the treatment. Pool should not be entered until the chlorine residual is 1.0 to 3.0 ppm.

OPENING YOUR POOL: Follow 'Shock Treatment' directions above. Repeat dosage, as needed, until chlorine residual is 1 to 3 ppm.

#### WINTERIZING:

While the water is still clear and clean, prepare for long periods of disuse by gradually applying 30 ounces of this product per 10,000 gallons of water (to provide a dosage of 15 ppm free available chlorine). Follow 'Method of Application' above. Run the filter until completely dissolved. Cover the pool with a plastic pool cover and prepare the heater, pump and filter components for winterizing by following manufacturers directions.

WATER BALANCE:

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To provide optimum product performance, swimmer comfort and crystal clear water, always maintain pH in the7.2-7.6 range, total alkalinity in the 60-100 parts per million (ppm) range and calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Make necessary adjustments with the appropriate HTH Pool Care Products. Follow label directions for these products.

TO DETERMINE YOUR POOL CAPACITY IN U.S. GALLONS, USE THE APPROPRIATE FORMULA BELOW:

POOL SHAPE	<u>FORMULA (Use measurements in feet only)</u>
RECTANGULAR	LENGTH X WIDTH X AVERAGE DEPTH X 7.5 = TOTAL GALLONS
ROUND	DIAMETER X DIAMETER X AVERAGE DEPTH X 5.9 = TOTAL GALLONS
OVAL	MAXIMUM LENGTH X MAXIMUM WIDTH X AVERAGE DEPTH X 5.9 = TOTAL GALLONS
REEFORM	SURFACE AREA (SQ. FEET) X AVERAGE DEPTH X 7.5 = TOTAL GALLONS

#### STORAGE & DISPOSAL

Keep this product dry in a tightly closed container when not in use. Store in a cool, dry, wellventilated area away from heat or open flame. In case of decomposition isolate container (if possible) and flood area with large amounts of water to dissolve all materials before discarding this container. Do not reuse empty container but place in trash collection. Do not contaminate water, food or feed by storage or disposal or cleaning of equipment.

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SPAS/HOT-TUBS - Apply 0.5 oz. of product per 50er gallons of water to obtain a free available chlorine concentration of 5 ppm, as determined by a suitable chlorine test kit. Adjust and maintain pool water pH to between 7.2 and 7.8. Some oils, lotions, fragrances, cleaners, etc. may cause foaming or cloudy water as well as reduce the efficiency of the product.

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To maintain the water, apply 0.5 oz. of product per 500 gallons of water over the surface to maintain a chlorine concentration of 5 ppm. Do not enter spa until chlorine residual is 1-3 ppm.

After each use, shock treat with 1.5 oz. of this product per 500 gallons of water to control odor and algae. During extended periods of disuse, add 1.5 oz. of product daily per 500 gallons of water to maintain a 3 ppm chlorine concentration.

HUBBARD AND IMMERSION TANKS - Add 0.5 oz. of this product per 100 gallons of water before patient use to obtain a chlorine residual of 25 ppm, as determined by a suitable test kit. Adjust and maintain the water pH to between 7.2 and 7.6. After each use drain the tank. Add 0.5 oz. to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths.

HYDROTHERAPY TANKS - Add 1 oz. of this product per 1000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable chlorine test kit. Pool should not be entered until the chlorine residual is below 3 ppm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter continuously. Drain pool weekly, and clean before refilling.

# SANITIZATION OF NONPOROUS FOOD CONTACT SURFACES

RINSE METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 0z. of this product with 40 gallons of water. If no test kit is available, prepare a sanitizing solution thoroughly mixing 1 oz. of this product with 20 galloss of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment and do not soak equipment overnight. Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

IMMERSION METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm  $\pm$  repare a 100 ppm sanitizing solution by thoroughly  $r_{ell}x_{ell}^2$  is oz. of this product with 40 gallons of water. If no  $\pm 3t$ kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment.

Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

FLOW/PRESSURE METHOD - Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110 % of volume capacity of the equipment by mixing product with 20 gallo the system until full f the system is complet air is removed from t hold under pressure f contact with all intercleaning solution from chlorine test kit. Rep process if effluent con chlorine.

# CLEAN-IN-PLACE

equipment after use. available chlorine san volume capacity of th in a ratio of 1 oz. pro Pump solution throug obtained at all extrem fiiled with the sanitiz system. Close drain v at least 10 minutes to surfaces. Remove sor valve and test with a cleaning/ sanitizing p 50 ppm available chl

# SPRAY/FOG MET

use. Use a 200 ppm a control bacteria, mole to control bacteriopha solution of sufficient product in a ratio of 1 water. Prepare a 600 the product in a ratio water. Use spray or for hypochlorite solution spray/fog equipment Thoroughly spray or excess sanitizer to dra hours. Prior to using treated with a 600 pp solution.

# SANITIZATION OF POROUS FOOD CONTACT SURFACES

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RINSE METHOD - Prepare a 600 solution by thoroughly mixing 3 oz. of this product with 20 gallons of water. Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the 600 ppm solution, maintaining contact for at least 2 minutes Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

IMMERSION METHOD - Prepare a 600 ppm solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 20 gallons of water. Clean equipment in the normal manner. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water. Prior to using, immerse equipment in the 200 ppm sanitizing-solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse and do not soak equipment overnight.

SPRAY/FOG METHOD - Preclean all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of sufficient size by thorough y mixing the product in a ratio of 3 oz. product wit' 20 gallons of water, Use spray or fogging equipment which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Throughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water

# SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES

**RINSE METHOD** - Prepare a sanitizing solution by thoroughly mixing 1 oz. of This product with 20 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 m<sup>2</sup> des. Do not rinse equipment with water after treatment and do not soak equipment overnight.

**IMMERSION METHOD** - Prepare a sanitizing solution by thoroughly mixing, in a immersion tank, 1 oz. of this product with on gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

SPRAY/FOG METHOD - Preclean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 1 oz. product with 20 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray or fog all surfaces until wit, allowing excess sanitizer to drain. Vacate area for at least 2 hours.

## DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES

**RINSE METHOD** - Prepare a disinfecting solution by thoroughly mixing 3 oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD - Prepare a disinfecting solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

# SANITIZATION OF POROUS CONTACT SURFACES

**RINSE METHOD** - Prepare a sanitizing thoroughly mixing 3 oz. o this product w of water to provide approximately 600 pg chlorine by weight. Clean surfaces in the manner. Prior to use, rinse all surfaces th the sanitizing solution, maintaining cont sanitizer for at least 2 minutes. Do not ri with water after treatment and do not soa overnight.

IMMERSION METHOD - Prepare a si solution by thoroughly mixing, in an imr oz. of this product with 20 gallons of wat approximately 600 ppm available chlorin Clean equipment in the normal manner. immerse equipment in the sanitizing solu 2 minutes and allow the sanitizer to drain equipment with water after treatment.

SPRAY/FOG METHOD - After cleanin non-food contact surfaces with 600 ppm chlorine by thoroughly mixing the produoz. of this product with 20 gallons of wat fogging equipment which can resist hypo solutions. Always empty and rinse sprayf with potable water after use. prior to usin thoroughly spray or fog all surfaces until excess sanitizer to drain. Vacate area for hours.

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The disinfection of sewage effluent must be evaluated by determining the total number of coliform bacteria and/or Fecal coliform bacteria, as determined by the Most Probable Number (MPN) procedure, of the chlorinated effluent has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction. On the average, satisfactory disinfection of secondary waste water effluent can be obtained when the chlorine residual is 0.5 ppm after 15 minutes contact. Although the chlorine residual is the critical factor in disinfection. the importance of correlating chlorine residual with bacterial kill must be emphasized. The MPN of the effluent, which is directly related to the water quality standards requirements, should be the final and primary standard and the chlorine residual should be considered an operating standard valid only to the extent verified by the coliform quality of the effluent.

The following are critical factors affecting waste water disinfection.

 Mixing: It is imperative that the product and the waste water be instantaneously and completely flash mixed to assure reaction with every chemically active soluble and particulate component of the waste water.
 Contacting: Upon flash mixing, the flow through the system must be maintained.

3. Dosage/Residual Control: Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain a predetermined, desirable chlorine level. Secondary effluent should contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minute contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.

**EFFLUENT SLIME CONTROL** - Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 2 to 20 oz. of this product with 100 gallons of water. Once control is evident, apply a 15 ppm available chlorine solution. Prepare this solution by mixing 0.3 oz. of this product with 100 gallons of water.

FILTER BEDS - SLIME CONTROL: Remove filter from service, drain to a depth of 1 ft above filter sand, and add 16 oz. of product per 20 sq./ft evenly over the surface. Wait 30 minutes before draining water to a level that is even with the top of the filter. Wait for 4 to 6 hours before completely draining and bac ashing filter.

# DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL/ FEDERALLY INSPECTED MEAT & POULTRY PLANT SYSTEMS)

Treatment of Federally Inspected Meat & Poutry Plant Potable Water Supplies Solutions of this product containing 1% available chlorine will effectively disinfect the water supply in Federally Inspected Meat & Poultry Plants. The solutions should be fed into the water supply by a hypochlorinator on the intake side of the pump. An available chlorine residual of 0.1 to 0.6 ppm must be maintained throughout the water distribution system to assure adequate disinfection. A regular testing program should be initiated to make sure that the proper chlorine residuals are present at all times.

Cooling Water in Canneries: Solutions of this product containing 1% available chlorine will sanitize cooling water, protect canned goods from contamination and spoilage and prevent staining of cans. The solution should be fed into cooling tanks or channels to reach a concentration of 2 ppm available chlorine. Check every two or three hours to be sure that an available chlorine residual of 2 ppm is maintained throughout the cooling system.

**PUBLIC SYSTEMS:** Mix a ratio of 1 oz. of this product to 6000 gallons of water. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. Contact your local Health Department for further details.

INDIVIDUAL SYSTEMS: - DUG WELLS Upon completion of the casing (lining) wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 1 oz. of this product into 40 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipe sleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing : Start pump and pump water until strong od in water it noted. Stop pump and wait at le: After 24 hours flush well until all traces of been removed from the water. Contact you Department for further details.

**INDIVIDUAL WATER SYSTEMS: DR DRIVEN & BORED WELLS - Run pum** is as free from turbidity as possible. Pour a available chlorine sanitizing solution into t solution can be made by thoroughly mixing product into 40 gallons of water. Add 5 to clean, chlorinated water to the well in orde sanitizer into the rock formation. Wash the pump cylinder with the sanitizer. Drop pip well, start pump and pump water until stro chlorine in water is noted. Stop pump and 24 hours. After 24 hours flush well until al chlorine have been removed from the water with high water levels may necessitate the methods for introduction of the sanitizer in Consult your local Health Department for f details.

INDIVIDUAL WATER SYSTEMS: FLO ARTESIAN WELLS Artesian wells gene require disinfection. If analyses indicate pe contamination, the well should be disinfect your local Health Department for further de

EMERGENCY DISINFECTION - when water for 1 minute is not practical, water ca potable by using this product. Prior to addit sanitizer, remove all suspended material by by allowing it to settle to the bottom. Decan clarified, contaminated water to a clean cou add 1 grain of this product to 1 gallor of w grain is approximately the size of the letter sentence. Allow the treated water to stand a minutes. Properly treated water should hav chlorine odor, if not, repeat dosage and allo to stand an additional 15 minutes. The treat then be made palatable by pouring it betwee containers for several times.

# **PUBLIC WATER SYSTEMS**

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**RESERVOIRS -** ALGAE CONTROL: Hypochlorinate streams feeding the reservoir. Suitable feeding points should be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.

MAINS - Thoroughly flush section to be sanitized by discharging from hydrants. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

NEW TANKS, BASINS, ETC. - Remove all physical soil from surfaces. Place 4 oz. of this product for each 5 cubic feet of working capacity (500 ppm available chlorine). Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with potable water and return to surface.

(PUBLIC WATER SYSTEMS CONTINUED) NEW FILTER SAND - Apply 16 oz. of this product for each 150 to 200 cubic feet of sand. The action of the product dissolving as the water passes through the bcd will aid in sanitizing the new sand.

NEW WELLS - Flush the casing with a 50 ppm available chlorine solution of water containing 1 oz. of this product for each 100 gallons of water. The solution should be pumped or fed by gravity into the well after thorough mixing with agitation. The well should stand for several hours or overnight under chlorination. It may then be pumped until a representative raw water sample is obtained. Bacterial examination of the water will indicate whether further treatment is necessary.

**EXISTING EQUIPMENT** - Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 4 oz. of this product for each 5 cubic feet capacity (approximately 500 ppm available chlorine). Fill to working capacity and let stand at least 4 hours. Drain and place in service. If the previous treatment is not practical, surfaces may be sprayed with a solution containing 1 oz. of this produr r each 5 gallons of water (approximately 1000 ppm-available chlorine). After drying, flush with water and return to service.

#### **EMERGENCY DISINFECTION AFTER FLOODS**

WELLS - Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 1 oz. of this product with 10 gallons of water. Backwash the well to increase yield and reduce turbidity, adding sufficient chlorinating solution to the backwash to produce a 10 ppm available chlorine residual, as determined by a chlorine test kit. After the turbidity has been reduced and the casing has been treated, add sufficient chlorinating solution to produce a 50 ppm available chlorine residual. Agitate the well water for several hours and take a representative water sample. Retreat well if water samples are biologically unacceptable.

**RESERVOIRS** - In case of contamination by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir obtains a 0.2 ppm available chlorine residual, as determined by a suitable chlorine test kit. In case of contamination from surface drainage, apply sufficient product directly to the reservoir to obtain a 0.2 ppm available chlorine residual in all parts of the reservoir.

**BASINS, TANKS, FLUMES, ETC.** - Thoroughly clean all equipment, then apply 4 oz. of product per 5 cu. ft. of water to obtain 500 ppm available chlorine, as determined by a suitable test kit. After 24 hours drain, flush, and return to service. If the previous method is not suitable, spray or flush the equipment with a solution containing 1 oz. of this product for each 5 gallons of water (1000 ppm available chlorine). Allow to stand for 2 to 4 hours, flush and return to service.

FILTERS - when the sand filter needs replacement, apply 16 oz. of this product for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, additional product should be distributed over the surface at the rate of 16 oz. per 20 sq. ft.. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be back washed of mud and silt, apply 16 oz. of this product ft., allowing the water to stand at a depth the filter sand. After 30 minutes, drain w level of the filter. After 4 to 6 hours drain with normal back washing.

**DISTRIBUTION SYSTEM** - Flush repareplaced section with water. Establish a hypochlorinating station and apply sufficient until a consistent available chlorine reside 10 ppm remains after a 24 hour retention chlorine test kit.

# **EMERGENCY DISINFECTION AF**

CROSS CONNECTIONS OR EMERG CONNECTIONS: Hypochlorination or equipment should be set up near the intak untreated water supply. Apply sufficient r a chlorine residual of at least 0.1 to 0.2 pf where the untreated supply enters the regidistribution system. Use a chlorine test ki-

# EMERGENCY DISINFECTION DROUGHTS

SUPPLEMENTARY WATER SUPPLI

or mechanical hypochlorite feeders should supplementary line to dose the water to a chlorine residual of 0.2 ppm after a ~2 mi time. Use a chlorine test kit.

WATER SHIPPED IN BY TANKS, TA TRUCKS, ETC. -Thoroughly clean ail ca equipment. Spray a 500 ppm available chl and rinse with potable water after 5 minut solution is made by mixing 1 oz. of this pa 5 gallons of water. During the filling of the dose with sufficient amounts of this produ at least a 0.2 ppm chlorine residual. Use c kit.

# EMERGENCY DISINFECTION AFTER MAIN BREAKS

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MAINS - before assembly of the repaired section, flush out mud and soil. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

# COOLING TOWER/EVAPORATIVE CONDENSER WATER

SLUG FEED METHOD - Initial dose: When system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved. Subsequent dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

**INTERMITTENT FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down.

Subsequent Dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system to obtain a 1ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down. Badly fouled systems must be cleaned before treatment is begun.

**CONTINUOUS FEED METHOD** - Initial dose: when system is noticeably fouled, apply 10 to 20 oz. of this

product per 10,000 gallons of water in the stem to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 3,000 gallons of water lost by blow down to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

Initially slug dose the system with 10 oz. of this product per 10,000 gallons of water in the system. Badly fouled systems must be cleaned before treatment is begun.

Subsequent Dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

# LAUNDRY SANITIZERS

#### Household Laundry Sanitizers

IN SOAKING SUDS - Thoroughly mix 1 Tbs. of this product to 10 gallons of wash water to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent. Immerse laundry for at least 11 minutes prior starting the wash/rinse cycle.

IN WASHING SUDS - Thoroughly mix 1 Tbs. of this product to 10 gallons of wash water containing clothes to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent and start the wash/rinse cycle.

#### **Commercial Laundry Sanitizers**

Wet fabrics or clothes should be spun dry prior to sanitization. Thoroughly mix 1 oz. of this product with 20 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm

# Federally Inspected Meat & Poultry Pla Sanitizers

Wet fabrics which contact meat or poultry j directly or indirectly, should be spun dry pr sanitization. Thoroughly mix 1 oz. of this p 20 gallons of water to yield 200 ppm availa Promptly after mixing the sanitizer, add the into the prewash prior to washing fabrics ir wash cycle with a good detergent. Test the available chlorine if solution has been allow Add more of this product if the available ch has dropped below 200 ppm. Thoroughly r with potable water at the end of the launder operation.

## FARM PREMISES

Remove all animals, poultry, and feed from vehicles, and enclosures. Remove all litter a from floors, walls and surfaces of barns, per chutes and other facilities occupied or trans animals or poultry. Empty all troughs, rack: feeding and watering appliances. Thorough surfaces with soap or detergent and rinse w disinfect, saturate all surfaces with a solution 1000 ppm available chlorine for a period of A 1000 ppm solution can be made by thorou 2 oz. of this product with 10 gallons of wate all halters, ropes and other types of equipme handling and restraining animals or poultry the cleaned forks, shovels and scrapers used removing litter and manure. Ventilate build boats and other closed spaces. Do not house poultry or employ equipment until chloring dissipated. All treated feed racks, mangels, automatic feeders, fountains and waterers in with potable water before reuse.

# PULP AND PAPER MILL PROCESS WATE ... SYSTEMS

SLUG FEED METHOD - Initial Dose: When system is noticeably fouled, apply 10 to 20. oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

INTERMITTENT FEED METHOD - Initial Dose: when system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down.

Subsequent Dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down. Badly fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD - Initial dose: When system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

#### AGRICULTURAL USES

**POST-HARVEST PROTECTION -** Potatoes can be sanitized after cleaning and prior to storage by spraying with a sanitizing solution at a level of 1 gallon of sanitizing solution per tons of potatoes. Thoroughly mix 1 oz. of this product to 10 gallons of water to obtain 500 ppm available chlorine.

Disinfect leaf cutting bee cells and bee boards by immersion in a solution containing 1 ppm available chlorine for 3 minutes. Allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mix 1/4 Tsp. of this product to 200 gallons of water. The bee domicile is disinfected by spraying with a 0.1 ppm solution until all surfaces are thoroughly wet. Allow the domicile to dry until all chlorine odor has dissipated.

FOOD EGG SANITIZATION - Thoroughly clean all eggs. Thoroughly mix 1 oz. of this product with 20 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130°F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking, Do not apply a potable water rinse. The solution should not be reused to sanitize eggs.

FRUIT & VEGETABLE WASHING - Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 1 oz. of this product in 200 gallons of water to make a sanitizing solution of 25 ppm available chlorine. After draining the tank, submerge fruit or vegetables for 2 minutes in a second wash tank containing the recirculating sanitizing solution. Spray rinse vegetables with the sanitizing solution prior to packaging. Rinse fruit with potable water only prior to packaging.

SEEDS - To control bacterial spot (Xanthomonas vesticatoris) on Pimento seeds, initially remove moist seeds from ripe fruits. To control surface fungi and bacteria on Tomato seeds initially wash seeds. Immediately soak seeds in 39,000 ppm solution for 15 minutes with continuous agitation. After treatment rinse seeds in potable water for 15 minutes. Dry seeds to normal moisture. The solution may be made by mixing 8 oz. of this product with 1 gallon of water.

MUSHROOMS - To control bacterial blotch (<u>Pseudomonas tolaasii</u>), use a 100 to 200 ppm solution prior to watering mushroom production surfaces. This solution may be made by mixing 0.2 to ( product with 10 gallons of water. First a should begin when pins form, and there breaks on a need basis depending on the bacterial blotch. This product may be ap pins to control small infection foci. App per square foot of growing space.

**POST-HARVEST ROOTS** - To contro spread of soft rot causing organisms in v sweet potatoes (<u>Ipomoea batatas</u>), spray potatoes with a 150 to 500 ppm solution minutes. Thoroughly mix 0.3 to 1.0 oz. per 10 gallons of water to obtain this sol the chlorine concentration and change th one hour or as needed.

# **AQUACULTURAL USI**

FISH PONDS - Remove fish from pond treatment. Thoroughly mix 20 oz. of this 10,000 gallons of water to obtain 10 ppn chlorine. Add more pro fact to the water chlorine level is below 1 ppm after 5 min fish to pond after the available chlorine 1 zero.

FISH POND EQUIPMENT - Thoroug equipment prior to treatment. Thoroughl this product to 20 gallons of water to obt available chlorine. Porous equipment she one hour.

MAINE LOBSTER PONDS - Remove seaweed etc. from ponds prior to treatme pond. Thoroughly mix 1200 oz. of this p 10,000 gallons of water to obtain at least available chlorine. Apply so that all barr and dam are treated with product. Permi the pond and then close gates. Allow wat 2 to 3 days until the available chlorine le zero. Open gates and allow 2 tidal cycles pond before returning lobsters to pond.

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**CONDITIONING LIVE OYSTERS** - Thoroughly x 1 oz. of this product to 10,000 gallons of water at 56 ... 70°F to obtain 0.5 ppm available chlorine. Expose oysters to this solution for at least 15 minutes, monitoring the available chlorine level so that it does not fall below 0.05 ppm. Repeat entire process if the available chlorine level drops below 0.05 ppm or the temperature falls below 50°F.

#### **CONTROL OF SCAVENGERS IN FISH**

HATCHERY PONDS - Prepare a solution containing 200 ppm of available chlorine by mixing 0.5 oz. of product with 10 gallons of water. Pour into drained pond potholes. Repeat if necessary. Do not put desirable fish back into refilled ponds until chlorine residual has dropped to 0 ppm, as determined by a test kit.

#### SANITIZATION OF DIALYSIS MACHINES

Flush equipment thoroughly with water prior to using this product. Thoroughly mix 7 oz. of this product to 60 gallons of water to obtain at least 600 ppm available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20°F C. Drain system of the sanitizing solution and thoroughly rinse with water. Discard and DO NOT reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to insure that no available chlorine remains in the system.

This product is recommended for decontaminating single and multipatient hemodialysate systems. This product has been shown to be an effective disinfectant (virucide, fungicide, bactericide, pseudomonicide) when tested by AOAC and EPA test methods. This product may not totally eliminate all vegetative microorganisms in hemodialysate delivery systems due to their construction and/or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. This product should be used in a disinfectant program which includes bacteriological monitoring of the homodialysate delivery system. This product is NOT recommended for use in hemodialysate or reverse osmosis (RO) membranes. Consult the guidelines for hemodialysate systems which are available From the Hepititis Laboratorics, CDC, Phoenix, AZ 85021.

#### ASPHALT OR WOOD ROOFS AND SIDINGS

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5000 ppm available chlorine solution. Mix 1 oz. of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water.

#### **BOAT BOTTOMS**

To control slime on boat bottoms, sling a plastic tarp under boat, retaining enough water to cover the fouled bottom area, but not allowing water to enter enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add 3.5 oz. of this product to this water to obtain a 35 ppm available chlorine concentration. Leave immersed for 8 to 12 hours. Repeat if necessary. Do not discharge the solution until the free chlorine level has dropped to 0 ppm, as determined by a swimming pool test kit.

#### **ARTIFICIAL SAND BEACHES**

To sanitize the sand, spray a 500 ppm available chlorine solution containing 0.1 oz, of this product per gallon of water at frequent intervals. Small areas can be sprinkled with a watering can.

#### FOOD PROCESSING PLANTS

**POULTRY DRINKING WATER** - Spray or flush with a solution containing 1 oz. of this product for every gallon of water. Treat poultry drinking water to a dosage of 1 to 5 ppm available chlorine by adding 1 to 5 oz. of this product per 1000 gallons of water.

FISH FILLETING - Eviscerated and degilled fish removed from the fishing vessel are placed in a wash tank of seawater or fresh water which has been treated with enough product to produce a chlorine residual of 25 ppm, as determined by a test kit. Remove fish from treated water 24 to 48 hours before filleting. After scaling the fish are again washed in a 25 pp and are ready for filleting.

#### PECAN CRACKING AND DYEING - PI

ppm available chlorine soaking solution by of this product for each 5 gallons of water to 1000 ppm available chlorine content. Soak minimum of 10 minutes. After removal, ago 24 hours. Before bleaching, pecans are place rotary cleaner where they are washed, drain soaked in a 2% sulphuric acid bath at 80 to minute. Transfer to a solution containing 16 product for each 100 gallons of water (5000 4 to 8 minutes, they are drained and washed sulphuric acid bath at 80 to 90°F. They are